

1. A device adapted for use with a vacuum source for occluding a body
2 lumen having an inner wall, the device comprising:
a blocking element having an outer periphery with one or more grooves, recesses
4 or depressions; and
a tube or lumen interconnecting the vacuum source to the grooves, recesses or
6 depressions, such that the suction of the vacuum source causes a water-tight seal to be
established between the periphery of the element and the inner wall of the body lumen.

2. The device of claim 1, wherein the vessel blocking element is shaped as a
2 disc or membrane.

3. The device of claim 1, wherein the blocking element is inflatable with a
2 liquid or gas to bring the outer periphery in close proximity to the inner wall of the
lumen.

4. The device of claim 1, wherein the lumen forms part of a human
2 cardiovascular system.

5. A device adapted for use with a vacuum source and an inflation source to
2 occlude a body lumen having an inner wall, the device comprising:
an inflatable blocking element having an inner cavity an outer periphery with one
4 or more grooves, recesses or depressions;

a first tube or lumen interconnecting the inflation source to the inner cavity of the
6 blocking element; and

a second tube or lumen interconnecting the vacuum source to the grooves,
8 recesses or depressions, such that pressurization of the cavity and suction to the grooves,
recesses or depressions causes a water-tight seal to be established between the periphery
10 of the device and the inner wall of the lumen.

6. The device of claim 5, wherein the blocking element is shaped as a disc or
2 membrane.

7. The device of claim 5, wherein a liquid or a gas is used to inflate the
2 element.

8. The device of claim 5, wherein the lumen forms part of a human
2 cardiovascular system.

9. A system for occluding a body lumen having an inner wall, comprising:
2 a source of vacuum;
a blocking element having an outer periphery with one or more grooves, recesses
4 or depressions;

a tube or lumen interconnecting the vacuum source to the grooves, recesses or
6 depressions to achieve a water-tight seal between the periphery of the element and the
inner wall of the lumen.

10. The system of claim 9, wherein the blocking element is shaped as a disc or
2 membrane.

11. The system of claim 9, further including a monitor for ensuring that the
2 level of suction is within a desirable range.

12. The system of claim 9, further including a source of inflation to expand
2 the element within the lumen.

13. The system of claim 12, further including a monitor for ensuring that the
2 level of pressurization is within a desirable range.

14. The system of claim 12, wherein a liquid or a gas is used to expand the
2 element.

15. The system of claim 6, further including a catheter for positioning the
2 element within the body lumen prior to step of achieving a water-tight seal.

16. The system of claim 9, wherein the lumen forms part of a human
2 cardiovascular system.

17. A system for occluding a body lumen having an inner wall, comprising:
2 an inflation source;
a vacuum source;
4 an inflatable blocking element having inner cavity and an outer periphery with
one or more grooves, recesses or depressions;
6 a first tube or lumen interconnecting the inflation source to the inner cavity of the
blocking element; and
8 a second tube or lumen interconnecting the vacuum source to the grooves,
recesses or depressions, such that pressurization of the cavity and suction to the grooves,
10 recesses or depressions causes a water-tight seal to be established between the periphery
of the device and the inner wall of the lumen.

18. The system of claim 17, wherein the blocking element is shaped as a disc
2 or membrane.

19. The system of claim 17, further including a monitor for ensuring that the
2 level of suction is within a desirable range.

20. The system of claim 17, further including a monitor for ensuring that the
2 level of inflation is within a desirable range.

21. The system of claim 17, wherein a liquid or a gas is used to expand the
2 element.

22. The system of claim 17, further including a catheter for positioning the
2 element within the body lumen prior to inflation.

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